

Enhancing Diagnostic Skills in Healthcare

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Donna Dalby

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Diagnosis is one of the most crucial tasks you perform as a healthcare practitioner. Well-honed and accurate diagnostic skills are a core competency for the practice of medicine. However, according to several studies, diagnostic errors are highly prevalent in healthcare worldwide^[1]. An estimated 140,000 cases of diagnostic error occur in Australia each year; 21,000 of those involve severe harm and contribute to between 2000 and 4000 deaths^[2]. In addition, almost one in two medico-negligence claims against general practitioners (GPs) involve some form of diagnostic error^[3].

What are diagnostic errors?

Diagnostic error is defined as the failure to either establish a timely and accurate explanation of a patient's health problem or communicate that explanation to the patient or other clinicians. Importantly, diagnostic errors are often preventable^[4]. The causes of such errors may have their roots in the early formative years of clinical training. Medicine is traditionally taught in a way that provides a logical and compartmentalised view of organ systems, which helps students make sense of the considerable factual knowledge to which they are exposed.

However, patients rarely present with the classical or prototypical diagnostic scenarios described in textbooks. They present with symptoms and signs that must be holistically analysed to construct a big picture view of the underlying illness, the risk factors that predispose to it, and its impact on physical and mental function. More elaborate illness scripts must be constructed that encompass atypical presentations and which avoid 'tunnel vision' thinking that a condition can only present itself in one manner and which fails to consider the epidemiology of different diseases.

Honing your diagnostic reasoning skills

Many professionals believe that knowledge deficiencies are the most common causes of diagnostic errors among practising clinicians^{[5],[6]}. In fact, it is not that practitioners are unfamiliar with alternative diagnoses; they just don't consider them when it is appropriate to do so.

Reflecting on how you think can help you identify cognitive biases that lead to diagnostic miscalculations. Intuitive thinking is a preferred mode of reasoning for clinicians, using mental shortcuts or rules of thumb to accelerate the cognitive process. While efficient and valuable in many circumstances, this approach may fail in the presence of cognitive biases, emotions, fatigue, peer opinions, and distractions, which can compromise mental accuracy.

Key strategies to prevent diagnostic errors

- Obtain a comprehensive history. Include any incidental information from family members, interpreters, and other healthcare professionals involved in the care plan.
 - Obtain an accurate chronological account of the clinical presentation.
 - Ask open-ended questions to understand the impact of the illness on the patient.
- Perform a focussed, hypothesis-driven physical examination.
- Generate a differential diagnosis
 - o Consider up to three alternative diagnostic options, but no more than six
 - Rank the diagnoses in order of decreasing probability
 - Justify your decisions based on the pros and cons of each option
- Ask yourself de-biasing questions:
 - What can't I explain?
 - What does not fit?
 - What else could it be?
 - How likely is the diagnosis?
 - What is the diagnosis I can't afford to miss?
 - Is this an atypical presentation of a common disease?
 - Could this patient have more than one problem?
 - How does this patient make me feel?
 - Are there any environmental factors placing you at greater risk of making an error?
 - Stress, fatigue, any biases based on previous clinical experience?
- Do I need to slow down and rethink this case?
- Do I need 'diagnostic time-out'?
- Calibrate your reasoning
 - Discuss your diagnoses with peers. Get a second opinion.
 - Diagnostic accuracy is increased by 33% when cases are discussed with colleagues^[7]
- Listen to, and take notice of, the views of patients, families, and other members of the care team.
- Set up feedback loops
 - Be mindful that your own self-assessment of diagnostic accuracy can be very unreliable.
 - Your level of diagnostic confidence can be insensitive to case difficulty and accuracy.
- Follow up patients over time and write your observations in the health records.
- Encourage your colleagues to report and discuss errors
 - Discuss cases with unexpected outcomes
 - Undertake "cognitive autopsies" to reflect on identified errors^[8].

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Articles

- [Diagnostic errors in medicine](#)
- [Diagnostics - A Team Sport](#)

- [How to avoid diagnostic errors in the ED](#)
- [Dental - Express yourself clearly!](#)

References

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